

## Circular Economy Practices Will Not Automatically Phase Out the Linear Economy

Advocates of the Circular Economy (CE) routinely argue that developing “circular solutions” has the capacity to stop unsustainable use of resources and the environmental impacts of the Linear Economy (LE). This can only happen if the development includes phasing out the LE.

Developing cleverly designed circular solutions must outcompete, supersede, and phase out current linear solutions. We list five issues that challenge the phasing-out assumption.

### First: An Issue of Pace

Starting with only a few percent of the economy, the CE requires decades to grow at a double-digit growth rate before surpassing the LE. LE is a reactive and dynamic system with vast capital and a proven entrepreneurial capacity to innovate and re-invent itself to remain competitive and grow. A scenario showing CE attempting to invent substitutes for linear innovations, always a step behind the LE, would not ensure a circular transition.

### Second: An Issue of Inertia

The LE’s longevity has allowed for associated cultural consumption habits to work in its favor, particularly in quality standards and safety expectations. Circular solutions would undermine the LE’s standardizations in, for example, VAT (value-added tax), guarantees, public tendering, and risk management.

The advocates of CE underestimate LE’s reliance on cheap nature, expansible labor, and fossil fuel energy. It’s widely accepted that a circular transition requires systemic changes at all levels, but it’s unclear how to achieve this.

Simply phasing-out will need to include innovations that can overcome numerous barriers – economic, legal, political, cultural, and technological – to develop circular products, services, and business models. How to overcome barriers, and more importantly, without delay, has not been addressed in research. There are strong indications that low-hanging transitions to circular infrastructures, national and international legal frameworks, and cultural norms, require time and effort that many corporate executives, policymakers, and consumers seem unwilling to embrace.

Because of its strengths, the LE is likely to continue with its unsustainable routine.

### Third: An Issue of Delivery

Environmental and social benefits may be less than expected, and if circular solutions do not deliver clear benefits, the notion of a transition to sustainability via circularity falls apart. Merely rebranding activities as ‘circular’, to end LE’s record of exploiting natural and human resources, is not enough.

Supplanting LE requires that CE rapidly delivers clear environmental and social benefits across developed and developing countries alike. This displacement must address the thorny issue of developing legitimate impact measurements because without them, circular projects may lose public and political support and become little more than a marginal economic model.

### Fourth: An Issue of Costs

CE advocates underestimate the inherently higher costs of a CE compared to an LE and could find it difficult to compete on price. There is a lack of circular infrastructure, and indications of funding sources to develop such an infrastructure are unclear. Will it come from producers, users, or public finances?

Innovative products, services, and developing business models are costly, as is attracting new customers and converting them into regular customers and revenue streams. The cost of extracting recirculated content can be higher than the cost of cheaper primary inputs.

Circular solutions tend to be more labor intensive, particularly in repair, recycling, and reverse logistics, and the required technology is still in its early maturity—adding to their lack of cost advantage.

There is a need to adapt to the contingencies of individual uses, as circular solutions are less able to draw cost advantages from economies of scope and scale. In addition, circular solutions need to internalize costs that LE solutions routinely externalize.

### Fifth: An Issue of Attractiveness

Phasing-out assumes that consumers have an innate desire to engage with circularity. The desire of consumers and customers-suppliers to learn about CE, get easy access to it, and a willingness to pay for circular solutions, is weak. CE demands time and financial resources, and substantial marketing to raise awareness if consumers are to abandon convenient linear habits and opt for circular solutions. Attracting and convincing new consumers about the environmental and social benefits of these solutions requires education about new value propositions.

Practical questions remain: Will consumers, even less affluent ones, pay more for recirculated material? How rapidly will customers’ preferences change? Will diffused social and environmental benefits compensate for concrete, immediate sacrifices of convenience?

Limited knowledge of CE combined with the difficulty and cost of delivering high-quality circular products constrain an industry wide CE transition. After decades of education in careless throw-away practices, customers’ readiness to return products remains hypothetical.

The need for greater control over localized goods and maintaining quality might generate new forms of resistance. Switching from linear global value chains to circular solutions is risky. Some stakeholders interested in circularity might not wish to take on the risks and uncertainties. Leaving it to consumers to decide does not guarantee that the migration to circular consumption will be significant enough to qualify as a transition.

### Overcoming the Linear Stranglehold

Unable to phase out the LE, the CE is likely to develop into a compartment in an economy that remains linear at its core. Circular solutions may coexist alongside linear, with hybrid solutions combining different proportions of linear and circular features. A hybrid economy could answer the question of economic growth, possibly with a relative decoupling, but it would still be maintaining unsustainable practices.

Industry should continue disrupting current LE business models. The issues of pace, strengths, and delivery necessitate courageous and systemic innovation in business practices and product design to ensure holistic solutions that encapsulate the true environmental and social costs. Changing working practices might mean returning to past practices.

The issue of costs requires additional shadow pricing to aid in internalizing the true costs of linearity. Attractiveness requires transparency of the full lifecycle of the service or product, and who is included or excluded in the circular supply chain.

To effectively end unsustainable linear practices, more determined political and bureaucratic support is necessary. It requires policies that systematically undermine and reduce the structural advantages that the LE enjoys. Reliance upon policies that stimulate the CE is not enough; policies that work towards decommissioning LE in conjunction with social support for actors to transition are also needed.

Minimally, the development of the CE must be accompanied by a deliberate, rapid, and systematic dismantling of the LE; otherwise, the LE and its negative effects will persist. Vainglorious hopes that CE has the capacity to replace LE based on its qualities alone could fall short of an effective transition to circularity.

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